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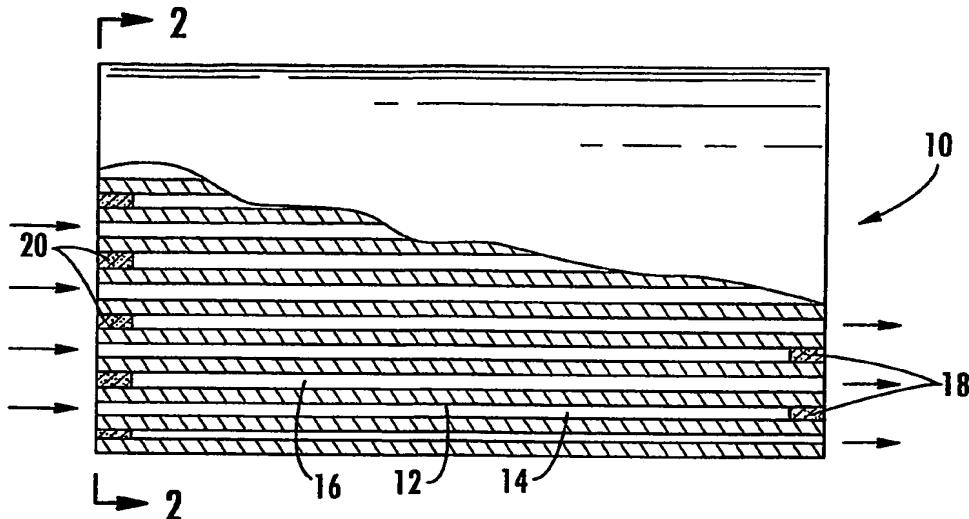
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(54) Title: IMPROVED DIESEL EXHAUST FILTER



(57) Abstract: An improved Diesel exhaust filter element of the type having a rigid porous wall portion formed of an acicular ceramic (such as acicular mullite), the porous wall portion having a first side and a second side, the porous wall portion being coated with a precious metal catalyst and a NO_x absorbent, such that when exhaust gas from a Diesel engine is flowed through the rigid porous wall from the first side to the second side, the exhaust gas containing excess oxygen, NO_x and soot, the soot in the exhaust gas is trapped within the rigid porous wall and catalytically oxidized to carbon dioxide, the NO is catalytically oxidized to NO₂, which NO₂ is then absorbed by the NO_x absorbent, and such that when the exhaust gas is caused to contain excess hydrocarbon and carbon monoxide, then the NO_x absorbent is regenerated and the remaining hydrocarbon and carbon monoxide are catalytically converted to nitrogen and carbon dioxide. In addition, a process for depositing precipitated metal ions on the surfaces of such a rigid porous wall.

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